INCORPORATING GENETIC MATERIAL INTO ORGANELLE(S), ESP. CHLOROPLAST(S) - BY SUSPENDING IN DNA CONTG. BUFFER, THEN PUNCTURING OUTER MEMBRANE WITH FOCUSSED LASER BEAM

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Abstract: DE 3707111 A

Incorporation of genetic material (A) into isolated organelles comprises suspending the organelles in a buffered (A) soln., then transferring the suspension into a glass capillary. **The organelles are exposed to a beam of UV laser light, of wavelength 280-340 nm, having its focal point inside the capillary.** Laser pulses are applied (with visual control under a microscope) as soon as an organelle is positioned with the surface of its outer membrane at the focal point. This produces a point-like opening in the membrane which persists for about 10 sec., and once the opening has closed, the organelles are recovered.

The organelles are chloroplasts and (A) is DNA from some other organism, esp. encoding a herbicide-resistance protein.

USE/ADVANTAGE - The transformed chloroplasts are implanted into isolated protoplasts or plant cells, then these developed into new plant varieties.

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